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DISCOVERIES AND CURRENT EVENTS *

Eritrea : Locusts *(Schistocerca gregaria* and *Locusta migratorioides)* (1).

During December 1931 swarms of *Schistocerca gregaria* and *Locusta migratorioides* were reported.

On the 10th numerous reddish coloured desert locusts (*Schist. gregaria*) coming from the south reached the Catra plain and divided into two groups, one of which flew in the direction of Scillichì and the other towards the Ghedem.

On the 13th individuals of undefined colour from the Barca reached Dembelas in the western plain ; on the 14th they returned towards the region they had come from.

On the 18th a few groups of hoppers of *Loc. migratorioides* and *Schist. gregaria* were observed and destroyed in the neighbourhood of Sceeb.

On the 18th and 19th more desert locusts flew around the territory of Dembelas.

On the 22nd a swarm coming from the south passed over the Ghirghir valley flying west ; another swarm coming from Ennadecco (Egghelà Hames) after crossing the Meretta Sebenè flew in the direction of the Seraè. These two swarms also were of desert locust.

A small swarm of *Loc. migratorioides* was observed on the 28th in the district of Uocchi (Carnescim).

On the 31st nuclei of reddish coloured desert locusts alighted on Monte Anzai to the south of Nacfa.

Other desert locusts, yellowish in colour, coming from the Digdigta flew towards Agambussa.

No egg laying was reported.

During January 1932 a single swarm of the tropical migratory locust (*Loc. migratorioides*) was reported in the eastern plain : on the 1st January the locusts which were of a reddish brown colour came from Mai Atal and after passing over the territory of the Damas flew in the direction of Agambussa.

In the second decade of the month the presence of unidentified hoppers was reported at Sceeb and at Mersa Taclai.

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* In this, as in the third chapter, the countries are arranged in French alphabetical order.

(1) Communication from the official correspondent of the Institute, Dr. A. De Benedictis, Chief of the Agricultural Bureau of Eritrea, transmitted by the Government of the Colony.

United States of America: The Reappearance of Tobacco Downy Mildew in Georgia (1).

The past year (1931) is credited with being the warmest in the history of the United States Weather Bureau. January 1932 has also been exceptionally warm. For example, at Washington, D. C., there was an accumulated excess above normal of 420 degrees F for the month of January, equivalent to a daily excess of 13.4°F. It is then not surprising that certain diseases are appearing in February which normally appear in April or May.

As in the spring of 1931, special interest is being aroused by the appearance of the Downy Mildew, *Peronospora hyoscyami*, of tobacco this winter in the plant beds of Georgia. It will be remembered that during the months of March, April and May, 1931, the downy mildew of tobacco appeared in numerous plant beds from Louisiana to Maryland. While the actual commercial losses proved to be slight, the very rapid spread of the disease and the alarming appearance of the affected beds gave rise to a great deal of excitement. As will also be remembered this was the first appearance of the disease in the United States since the spring of 1921, when it was found in a few counties in Florida.

The earliest observed appearance of the disease this winter was reported by Dr. J. G. Gaines who found 20 per cent. of the plants in a seed bed at Tifton, Georgia, affected December 30, 1931.

During the past winter (up to February 15) there has been no killing frost in south Georgia. Due to the unusual warm weather tobacco seedlings in early plant beds grew rapidly and suckers from original stalks left unmolested in 1931 beds continued to grow.

Downy mildew was observed on two beds of young tobacco seedlings and on three of the 1931 discarded beds, during late January, and by February 13, numerous reports of the diseases had been received from various points throughout the Georgia tobacco belt.

India: *Rhizoctonia bataticola* on Sorghum (2).

In continuation of the report on *Rhizoctonia bataticola*, which appeared in the September (1931) number of this journal (p. 163) it has now been definitely shown in controlled experiments that this fungus is pathogenic to sorghum under certain conditions of soil moisture. This parasite has caused this year considerable damage to *rabi* (winter) sorghum in the experimental plots at Mohol. The severe attack was probably due to the heavy quantities of late rains received early in December.

India: *Sclerotium rolfsii* on Cotton in Bombay (2).

Sclerotium rolfsii has been recorded for the first time to be causing damage to cotton under field conditions in the Bombay Presidency.

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(1) Communication from the official correspondent of the Institute, Dr. Neil E. STEVENS, Senior Pathologist, Plant Disease Survey, Bureau of Plant Industry, United States Department of Agriculture, Washington.

(2) Communication from the official correspondent of the Institute, Dr. B. N. UPPAL, Plant Pathologist to Government, Bombay Presidency, Poona.

Morocco (French Zone) : Movements of Swarms of *Schistocerca gregaria* (1).

Sous.

22 January 1932. — A brick red swarm coming from Tiznit alighted at Tiout, 20 km south-east of Taroudant.

23 » » — The same swarm passed Aoulouz, 70 km east of Taroudant, flying north-east.

25 » » — A large swarm (10 × 20 km) coming from the south passed the night 16 km to the south-east of Taroudant.

26 » » — This swarm passed the night 74 km to the north-east of Taroudant.

27 » » — A swarm of 2 × 3 km coming from the south-east alighted in the valley of the Sous 20 km west of Taroudant. Another 4 × 2 km coming from the south-west reached the Sous valley 30 km east of Agadir.

28 » » — A somewhat dense swarm of 25 × 5 km flying north-west passed the night 30 km north-east of Taroudant.

Ouarzazat.

21 January 1932. — A large swarm alighted in the evening 70 km south-east of Taroudant. Part of this swarm flew away on the 22nd in a south-easterly direction.

23 » » — A very large swarm alighted 75 km south-west of Ouarzazat.

24 » » — Another swarm 80 km south-west of Ouarzazat ; departed on the 25th towards the north-west.

29 » » — A large swarm 10 km north-east of Taroudant.

Grand Atlas.

22 January 1932. — A large swarm 30 km east-north-east of Tamanar ; departed on the 23rd towards the north. Another swarm, but not large, 26 km east of Tamanar ; on the 3rd flew away in a northerly direction.

25 » » — A large swarm passed Imintanout flying north-west.

27 » » — A large swarm alighted 30 km north-west of Imintanout.

28 » » — A sparse swarm alighted 35 km north-north-west of Imintanout. A red swarm of 4 × 3 km coming from the north alighted 30 km north-east of Tamanar and departed on the 29th towards the north-west.

29 30 31 » » — A third swarm 26 km east of Tamanar, where it remained on the 29th and 30th ; departed on the 31st towards the north-east.

Chaouia.

24 January 1932. — A red swarm of 1 × 1 km alighted in the evening 48 km south-east of Settat ; departed on the 25th towards the north-east.

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(1) Communication from Mr. P. Régnier, Chief of the Crop Protection Service of Morocco (French Zone) at Rabat, transmitted to the Institute by Mr. Delassus, Crop Protection Inspector of Algeria and Chief of the Regional Locust Station at Algiers.

TADLA.

23 January 1932. — A swarm coming from the south-west alighted 10 km north-east of Dar Ouled Zidouh.

24 » » — This swarm passed Talaal Cheil, 20 km west-north-west of Beni Mellal, flying north. It alighted in the evening at 1 ½ km south of Boujouad ; departed on the 25th towards the south-west.

26 » » — A small swarm coming from the south passed over Oued Zem and alighted 30 km north of this centre.

27 » » — A swarm coming from the south-west alighted 10 km south-east of Moulay-bou-Azza.

28 » » — This swarm flew away in a north-westerly direction.

RABAT.

28 January 1932. — Pink, grey and yellow locusts coming from the south (Oued-Zem) alighted 15 km east of Camp Christian.

29 » » — A swarm 20 km to the south-west coming from Moulay-bou-Azza flying north.

VARIOUS QUESTIONS

Freeing the Soil of Rooted Azaleas from Insects (1).

Importance of the question. — It is needless to insist here on the importance as regards technique as well as from the point of view of international horticultural commerce, of the problem of freeing the soil adhering to plant roots from insects.

The present study is principally concerned with the development of a process which will destroy as simply and economically as possible the larval or adult stages of the insects which may be met with in the soil about the roots of azaleas.

Recognised soil insecticides. — Among the compounds at present known carbon disulphide and hydrocyanic acid gas are found the most efficacious. Unfortunately the high toxicity to man of hydrocyanic acid gas makes its use very dangerous. Thus carbon disulphide retains the most important place among soil insecticides.

Carbon disulphide however presents certain disadvantages, viz, its action on plant foliage coming in contact with its vapour, its inflammability, its insolubility in water and its inadequate action against certain insects.

Leach and Flemming have invented a device for treating soil round roots with carbon disulphide while protecting the foliage from the vapour. To obtain this result the aerial parts of the plant are submerged in water during the treatment.

(1) Communication from Dr. H. SCHEERLINCK, Inspector of Horticulture to the Ministry of Agriculture of Belgium, and Mr. N. CHARLIERS, Ingénieur A. I. Gx., Chief of the Agricultural Research Laboratory of the Belgian Chemical Union, transmitted by the Minister of Agriculture of Belgium to the International Institute of Agriculture.

This method may be accused of being relatively complicated and still leaving unaltered the other drawbacks mentioned above.

Thus the writers have directed their research towards the derivatives of carbon disulphide and amongst these the sulphocarbonate of potassium has been found most worthy of attention.

The sulphocarbonate of potassium is obtained by the action of sulphuretted hydrogen and carbon disulphide on potash, according to the following equation :

$$2KOH + H_2S = K_2S + 2H_2O$$
$$K_2S + CS_2 = K_2CS_3$$

The product thus obtained is very unstable ; in the presence of water and an acid it decomposes according to the following equation :—

$$K_2CS_3 + H_2O + CO_2 = K_2CO_3 + CS_2 + H_2S$$

In this decomposition a potassium salt of the acid used, carbon disulphide and sulphuretted hydrogen are produced. This last gas itself possesses notable insecticidal properties which are added to those of the carbon disulphide.

Moreover the residual potassium carbonate in addition to its nutritive value constitutes an alkaline dressing which may favourably modify soil reaction, neutralising partially or completely, according to the quantity used, any soil acidity.

In the dry state sulphocarbonate of potassium may contain 38 % of CS_2 and liberate during decomposition 17 % of H_2S.

Sulphocarbonate of potassium is usually sold commercially in aqueous solutions titrating about 35 % of the dry product.

The use of sulphocarbonate of potassium for the control of insect pests of plants has been known for a long time ; it has been successfully used in France for the control of *Phylloxera vastatrix*. It is still recommended for this use by the Viticultural Research Station of Lausanne. According to instructions supplied to Swiss vine growers the most effective treatment consists in steeping the vine cuttings for a given time in a soapy solution to which 3 % of sulphocarbonate of potassium is added.

This method was the source of inspiration in the first experiments of the writers on the root soil of azaleas. But as will be shown below the process had to be abandoned owing to its seriously injuring growth in this case.

Experiments.

Relative toxicity of carbon bisulphide and sulphocarbonate of potash. — With an equal content in carbon bisulphide a mortality of 14.6 % of cock-chafer larvae (*Melolontha vulgaris*) was produced by an emulsion of carbon disulphide, against that of 31.1 % produced by sulphocarbonate of potash. Thus the latter appears to have double the insecticidal action of carbon disulphide emulsion.

Resistance of azaleas to steeping of the root clot in solutions of sulphocarbonate of potash. — These experiments were started on the lines recommended by the Lausanne Viticultural Research Station for the disinfection of vine cuttings.

Conclusions. — The steeping method gives good results as regards the killing of the larvae but also kills the plants.

Injection process. — The method of using the sulphocarbonate of potash was then modified. It was decided to inject the solution into the soil. A preliminary experiment with a Pravaz veterinary syringe having given encouraging results a small special apparatus was constructed.

This apparatus consisted of a 200 c. c. Pravaz syringe with certain modifications. The needle was replaced by a hollow tube drawn out to a point at one end. The point was not perforated, but 66 holes 1 mm. in diameter were made perpendicularly to the axis of the tube and in 3 different planes. The total length of the tube was 14 cm ; the holes were distributed over a length of 10 cm. Between the needle and the pump was inserted a tube with two stopcocks, one of which was connected to a lateral tube by which the solution was drawn up into the pump, and the other when closed prevented particles of soil adhering to the needle from entering the apparatus.

To inject the solution in the pump into the soil it was only necessary to reverse the taps of the two stopcocks. The taps were protected against fouling by a small shield, 6 cm. in diameter, placed perpendicularly to the axis of the needle between it and the pump. The lateral tap could be connected by rubber tubing to the reservoir of solution to be injected.

This arrangement makes it possible to carry out a series of injections with great rapidity without having to clean the syringe.

Resistance of azaleas to injections of sulphocarbonate of potash. — In the first experiments a 100 c. c. unmodified Pravaz syringe was used. It was found that the optimum injection of the solution was not attained in this way.

The apparatus described was then used and 200 c. c. of solution were injected into each root clot of approximately 2 kg.

After injection the clots were soaked in water for 3-4 minutes to promote regular distribution of the disinfectant.

The clots with larvae were kept, as in the other experiments, in pots, and those without larvae in the ground.

The experiments with the improved syringe were repeated, injecting each clot with 200 c. c. of the sulphocarbonate solution.

General Conclusions.

1st result. — The azaleas were resistant to injections of solutions of sulphocarbonate of potash at 20 % and about 40 % of the larvae were killed with 5-10 % solutions. Other disinfectant solutions tried by the same method did not give similar results.

Control experiments were at the same time carried out with geraniums and vines in pots.

A first series of plants was watered with 5 %, 10 %, 15 % and 20 % solutions of sulphocarbonate of potash. Those treated with 5 % and 10 % solutions suffered no harm, those given 15 % and 20 % appeared to be killed. The mortality of the larvae was similar to that in the azalea experiments. If the percentage mortality of the insects is not yet adequate the reasons, as shown below, are the dryness of the soil and the use of insufficient solution.

Further experiments were tried with geraniums and vines in pots : — (*a*) by sprinkling and (*b*) by injection after previous moistening of the soil.

2nd result. — In the pots treated with 5 % solution all the larvae were killed and the geraniums uninjured. Similarly with the 10 % pots. In the 15 %

pots the larvae were killed but the plants were slightly scorched. In the 20 % pots the larvae were killed and the plants were killed.

The resistance of the vines not yet being determined the plants are being kept under observation.

After these experiments a further series of rooted azaleas were injected with 200 c. c. of sulphocarbonate of potash and then steeped in pure water for 5 minutes. The results of these new experiments were more encouraging as regards the mortality of the insects.

Other chemical substances for injection are under study for it is thought that in this direction must be sought a pratical solution of the problem.

The disinfection of rooted azaleas and of soil is still far from being achieved, but certain conclusions may already be drawn from these investigations :—

(1) It has been proved that sulphocarbonate of potash is twice as toxic as a pure emulsion of carbon disulphide.

(2) New facts have been ascertained with regard to the resistance of azaleas, i. e., that they are able to withstand 10 % and more by the injection method.

(3) Larvae of *Cetonia stictica* are killed by a 5 % solution of sulphocarbonate of potash.

(4) Larvae of the striped click-beetle (*Agriotes lineatus*) are killed by a 7.5 %-10 % solution.

(5) *Otiorrhynchus raucus* is killed at 7.5 % and even at 5 % when they are buried at sufficient depth and their escape prevented.

(6) Larvae of *Sciara quinquelineata* are killed at a concentration of 1 % of sulphocarbonate of potash.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

Guatemala. — Plant protection measures in force in Guatemala require that any package containing plants or plant parts, seeds or fruits must be accompanied by a sanitary certificate endorsed by a consul of the country. Seeds and plants imported without such a certificate will be forwarded by the customs or post office to the Department of Agriculture which will if necessary have them disinfected. Flower or vegetable seeds sent through the post in small quantities do not require a sanitary certificate. It is forbidden to introduce slips of sugar cane, mulberry trees, seeds and plants of coffee, banana plants coming from the West Indies and the countries bordering the Gulf of Honduras, also sacks which have been previously used, with a view to preventing the introduction of the beetle *Araecerus fasciculatus*. (*Deutsches Handels-Archiv*, Berlin 1932, 86. Jahrg., S. 155).

Italy. — A Ministerial Decree dated 16 February 1932 modifies the special technical regulations for the exportation of potatoes established by the Ministerial Decree of 23 February 1931, and establishes *inter alia* that by healthy tubers are intended those showing on the exterior surface no spots, traces of rot or other defects which spoil their appearance or indicate that the potatoes are unfit for consumption. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 2 marzo 1932, anno 73°, n. 51, pp. 1085-1086).

Mexico (1). — By ' acuerdo ' of the ' Secretaría de Agricultura y Fomento ' dated 4 December 1931, which came into force on the 9th of the same month, the ' Cuarentena Interior Núm. 4 ' for the purpose of preventing the spread of the ' mosca de la fruta ' (*Anastrepha ludens*) has been modified and amplified.

In consequence of the serious damage this fruit fly has caused in the Republic the new text contains a series of regulations which aim at avoiding the spread of the pest in the zones already infested and its introduction into other regions of the country not yet infested.

Portugal. — The Head Customs Office in Lisbon has communicated a list containing the names of a dozen products for the control of plant diseases and pests which may be imported free of duty. (*Deutsches Handels-Archiv*, Berlin 1932, 86. Jahrg., S. 389).

*** By Decree No. 20301 of 11 September 1931 there has been formed in expectation of the reorganisation of the Phytopathological Section of the Ministry of Agriculture, a permanent Commission for Plant Protection, which will be responsible for the sanitary control of importation and exportation, issue of sanitary certificates and the quarantine service for imported plants. (*Deutsches Handels-Archiv*, Berlin 1932, 86. Jahrg., S. 87-88).

Italian Somaliland (2). — The Ministry of Agriculture and Forests on request of the Ministry for the Colonies has decided to allow, in derogation of the present regulations, the importation into the Kingdom of Italy of Solanaceous crop products (potatoes, peppers, egg plants and tomatoes) produced in the East African Colonies.

The conditions for safeguarding the agriculture of the country from possible infection by new parasites of plants, on which the Ministry has accorded permission for such importation, are the following :—

(*a*) Consignments of potatoes, tomatoes, egg plants and peppers produced in Eritrea and Italian Somaliland must be accompanied by sanitary certificates issued by the Colonial Phytopathological Service.

(*b*) On unlading in Italian ports the vegetables specified shall be inspected by officials of the Metropolitan Phytopathological Service and admitted for importation if certified free from harmful parasites.

(*c*) In the case of the vegetables being found infected with parasites they shall be thoroughly desinfected by the persons concerned.

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(1) Communication from the official correspondent of the Institute, Dr. Alfonso Dampf, Jefe del Departamento de Investigación, Oficina Federal para la Defensa Agrícola, San Jacinto, D. F.

(2) Communication from the Government of Italian Somaliland.

RECENT BIBLIOGRAPHY

ABBOTT, E. V. Further notes on plant diseases in Peru. *Phytopathology*, Lancaster Pa., 1931, Vol. 21, No. 11, pp. 1061-1071.
[Mosaic and mechanical twisted top, on sugar cane; *Fusarium* [*vasinfectum*], *Erysiphe Malachrae*, *Ramularia areola*, *Alternaria* sp., on cotton; *Puccinia glumarum*, *P. graminis*, *P. graminis Avenae*, *P. triticina*, *Helminthosporium gramineum*, *H. sativum*, *H. Oryzae*, *Phyllachora Maydis*, *Phoma zeicola*, on cereals; *Phytophthora infestans*, *Spongospora subterranea*, *Synchytrium endobioticum*, *Aecidium cantense*, *Puccinia Pittieriana*, *Oidium* sp., *Corticium vagum*, *Fusarium Martii-minus*, *F. Solani*, on the potato; *Diplodia natalensis*, *Penicillium italicum*, on citrus trees; *Exoascus deformans*, *Oidium leucoconium*, on the peach; *Fusarium* sp., on the papaw; mosaic, on tomatoes and peppers; *Cercospora Apii*, on celery; *C. citrullina*, on the melon; *C. zebrina*, on lucerne; *Corticium vagum* and *Oidium* sp., on various plants].

Achtunddreissigste Denkschrift über die Bekämpfung der Reblaus 1924 bis 1929. Bearbeitet in der Biologischen Reichsanstalt für Land- und Forstwirtschaft, Berlin 1931, 60 S.
[*Dactylosphaera vitifolii*].

AGATI, JULIAN A., and TAN, JOSÉ P. Controlling the Aeginetia indica in cane fields. *Sugar News*, Manila, P. I., 1931, Vol. XII, No. 12, pp. 852-854.
[*A. indica* is a Phanerogam parasite of sugar cane].

AGATI, JULIAN A., and TAN, JOSÉ P. The effect of atlacide on Aeginetia indica. Efecto de la atlacita en la Aeginetia indica. *Sugar News*, Manila, P. I., Vol. XII, No. 2, pp. 82-89.
[In English and in Spanish].

BALACHOWSKY, A. Contribution à l'étude des Coccides de l'Afrique mineure. [11me note]. Sur une Diaspine nouvelle récoltée par M. P. Vayssière dans le Haut-Atlas. *Bulletin de la Société Entomologique de France*, Paris, 1932, tome XXXVII, nº 1, p. 18-20, 5 fig.
[*Aspidiotus* (*Aonidiella*) *occidentalis* n. sp. on *Chamaerops humilis*. Description in French].

BALACHOWSKY, A. Sur la présence du pou de S. José (*Aonidiella perniciosa* Comst.) sur des pommes de provenance américaine vendues sur le marché de Paris. *Bulletin de la Société Entomologique de France*, Paris, 1932, tome XXXVII, nº 2, p. 34-35.
[A single female of this scale insect was observed at Casablanca on an apple from New Zealand].

BANTI, ADOLFO. Boschi infestati dalla « Euproctis chrysorrhoea ». *L'Alpe*, Milano, 1932, anno XIX, n. 1, pp. 32-37, 7 figg.
[In the Marches, Italy].

BELLIO, G. La fumigazione con acido cianidrico di limoni in casse. (Contributo sperimentale). *Citrus*, Messina, 1932, anno XVIII, n. 1, pp. 10-21, figg. 1-9.
[Fumigation under a tent of the boxes of lemons completely kills the scale insects *Aspidiotus hederae*, *Chrysomphalus dictyospermi*, *Lepidosaphes pinnaeformis*, etc.].

BOTTINI, E. Sulle sostanze atte a provocare il riscaldo nelle pere. *R. Stazione Chimico-Agraria di Torino. Annuario*. vol. XI (1929-1931), s. n. t., pp. 373-379, 3 tav. a col.
[Deals with a physiological alteration known as Scald in America].

BURKHOLDER, WALTER H., and ZALESKI, KAROL. Varietal susceptibility of beans to an American and a European strain of Phytomonas medicaginis var. phaseolicola, and a comparison of the strains in culture. *Phytopathology*, Lancaster, Pa., 1932, Vol. 22, No. 1, pp. 85-94.

CHAN, KWAI SHANG. Notes on control of the litchi stink bug, Tessaratoma papillosa Drury. (Heteroptera, Pentatomidae). *Lingnan Science Journal*, Hongkong, 1931, Vol. 10, No. 4, pp. 399-411.

CHARPENTIER, CHARLES. Plaies des arbres causées par les Mammifères. *Revue de Pathologie Agricole et d'Entomologie Agricole*, Paris, 1931, tome XVIII, fasc. 10, p. 302-305.

COFFMANN, F. A., STANTON, T. R., BAYLES, B. B., WIEBE, G. A., SMITH, R. W., and TAPKE, V. F. Inheritance of resistance in oats to Ustilago levis. *Journal of Agricultural Research*, Washington, D. C., 1931, Vol. 43, No. 12, pp. 1085-1099. Literature cited, p. 1099.

CRAIGIE, J. H. An experimental investigation of sex in the rust fungi. *Phytopathology*, Lancaster, Pa., 1931, Vol. 21, No. 11, pp. 1001-1040, figs. 1-14. Literature cited, pp. 1037-1040.
[*Puccinia graminis, P. Helianthi, P. coronata, P. Pringsheimiana, Gymnosporangium* sp. (*corniculans* ?)].

D'AMARAL, DIAS, FELIX. Como se combate a mosca da laranja. *O Campo*, Rio de Janeiro, 1931, anno II, nº. 6, pag. 29, 1 fig.
[*Ceratitis capitata*].

DELASSUS, et PASQUIER. Les ennemis du dattier et de la datte. *Semaine du Dattier. Biskra - Novembre 1931. Section B. Rapport B. - Nº 13*, Alger [1931], 15 pp.
[' Baïoudh ' (the causes of this disease are not yet fully known), rot of the inflorescence or ' Khamedj ' (*Mauginiella Scaettae*), ' Bou-Faroua ' (*Paratetranychus heteronychus*), *Parlatoria blanchardi, Phoenicococcus marlatti, Apate monachus*, on the date palm during the vegetative period ; *Carpophilus, Sylvanus, Ephestia, Myelois, Plodia, Tinea, Tineola* on picked dates].

DE TOMASI, J. A. Immunity in plants. *Phytopathology*, Lancaster, Pa., 1932, Vol. 22, No. 1, pp. 95-102. Literature cited, p. 102.

DIDDENS, HARMANNA A. Untersuchungen über den Flachsbrand (verursacht durch *Pythium megalacanthum* de Bary). *Phytopathologische Zeitschrift*, Berlin 1932, Bd. IV, Heft 3, S. 291-313, Abb. 1-5, Literaturverzeichnis, S. 310-313.

DRONKIN, I. F. Influence of the winter of 1928-1929 on the fruit-trees in orchard and nurseries of the Ukrainian Substation of the Institute of Applied Botany. *Bulletin of Applied Botany, of Genetics and Plant-Breeding*, Leningrad, 1931, Vol. XXVI, No. 4, pp. 397-427.
[In Russian, with title and summary in English].

EAST, E. M. Immunity to sugar cane mosaic acquired by the host. Immunidad al mosaico de la caña dulce adquirida por la planta. A review. Una revista. *Sugar News*, Manila, P. I., 1931, Vol. XII, No. 11, pp. 795-796.
[In English and Spanish].

FARIS, JAMES A. The utilization of varieties in the field control of sugar cane mosaic and root diseases in Cuba. (A preliminary report). *Tropical Plant Research Foundation. Scientific Contributions No. 20*, Yonkers, N. Y., 1931, 69 pp., 2 figs.

FEUCHT, WERNER. Die Wirkung des Steinbrandes *Tilletia tritici* (Bjerkander) Winter und *Tilletia foetens* (Berkeley et Curtis) Tulasne auf verschiedene Winterweizensorten bei künstlicher Infektion in ihrer Abhängigkeit von äusseren Faktoren. *Phytopathologische Zeitschrift*, Berlin 1932, Bd. IV, Heft 3, S. 247-290, Abb. 1-6. Literatur, S. 287-290.

FRAPPA, C. Sur la présence à Madagascar de *Pseudococcus filamentosus* Ckll., Cochenille nuisible aux caféiers. *Revue de Pathologie Végétale et d'Entomologie Agricole*, Paris, 1931, tome XVIII, fasc. 10, p. 305-311, pl. XX. Bibliographie, p. 311.

GANTE, TH., und ZIMMER, R. Versuche zur Bekämpfung der «Grossen Schildlaus» (Eulecanium corni (Bché.) Ckll.). *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1932, 42. Bd., Heft 3, S. 121-123.

García Mercet, Ricardo. Afelínidos paleárticos (Hym. Chalc.). 8ª. nota. *Boletín de la Sociedad Española de Historia Natural*, Madrid, 1931, tomo XXXI, núm. 9, págs. 659 a 669, figs. 1 a 13.
[*Prospaltella* spp.].

García Mercet, Ricardo. Notas sobre Afelínidos (Hym. Chalc.). 4ª. nota. *Eos*, Madrid, 1931, tomo VII, cuad. 4º., págs. 395 a 409, figs. 1-5.
[Describes in Spanish *Eretmocerus mundus* n. sp., a parasite of an *Aleurodes* of the egg plant. The European species of the gen. *Coccophagus* are enumerated and the European species of *Aphelininae* erroneously attributed to the same genus].

Ghimpu, V. Contribution à la tératologie des *Nicotiana*. *Revue de Pathologie Végétale et d'Entomologie Agricole*, Paris, 1931, tome XVIII, fasc. 8 et 9, p. 289-295, pl. XIII-XIX.

Goetze, G., und Schleusener, W. Versuche zur Bekämpfung der Weidenblattkäfer. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1932, 42. Bd., Heft 2, S. 49-58.
[*Phyllodecta vulgatissima, Plagiodera versicolor*].

Haasis, Ferdinand W. A study of laboratory methods for investigating the relation between moisture content of wood and fungal growth. *Phytopathology*, Lancaster, Pa., 1932, Vol. 22, No. 1, pp. 71-84.

Harris, R. V. Raspberry cane spot: its diagnosis and control. *The Journal of Pomology and Horticultural Science*, London, 1931, Vol. IX, No. 2, pp. 73-99, pls. I-VI. Bibliography, pp. 97-99.
[*Plectodiscella veneta*].

Harukawa, Chukichi, Takato, Ryôiti, and Kumashiro, Saburō. Studies on the rice-borer, *Chilo simplex* Butler. I. On the prolonged emergence period of the moth in spring. *Berichte des Ohara Instituts für landwirtschaftlichen Forschungen*, Kuraschiki, 1931, Bd. V, Heft, 1, S. 177-207, Fig. 1-8.

Harukawa, Chukichi, Takato, Ryôiti, and Kumashiro, Saburō. Studies on the rice-borer, *Chilo simplex* Butler. II. Effect of constant temperature upon the development of the rice-borer. *Berichte des Ohara Instituts für landwirtschaftlichen Forschungen*, Kuraschiki, 1931, Bd. V, Heft 6, S. 209-220, Fig. 1-4.

Horn, Walter. Gedanken über den Gebrauch von entomologischer Literatur. *Anzeiger für Schädlingskunde*, Berlin 1932, VIII. Jahrg., Heft 2, S. 17-21.

Husain, M. Afzal, and Bhalla, Hem Raj. Some bird enemies of the desert locust (*Schistocerca gregaria*, Forsk.) in the Ambala District (Punjab). *The Indian Journal of Agricultural Science*, Calcutta, 1931, Vol. I, Pt. V, pp. 609-619.

Isatshenko, V. B., and Goritzkij, O. V. Some data of toxicological analysis of the pyrethrum. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 165-174, figs. 1-8.
[In Russian, with title and summary in English].

Jack, Rupert W. *Ephestia elutella*, Hb., as affecting the Southern Rhodesian tobacco export trade. *The Rhodesia Agricultural Journal*, Salisbury, Rhodesia, 1932, Vol. XXIX, No. 1, pp. 32-36.

Jarach, Marco. Sul meccanismo dell'immunità acquisita attiva nelle piante. *Phytopathologische Zeitschrift*, Berlin 1932, Bd. IV, Heft 3, S. 315-327, Fig. 1-5. Bibliographie, S. 327.

Kazanskij, B. Determination of nicotine by means of titration with the silico-tungstenic acid. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 147-153.
[In Russian, with title and summary in English].

KOZHANTSHIKOV, J. Interrelations between the thanatosis and the central nervous functions in Lochmaea capreae L.. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 233-240, fig. 1.
[In Russian, with title and summary in English].

LABROUSSE, F. Observations sur quelques maladies des plantes maraîchères. *Revue de Pathologie Végétale et d'Entomologie Agricole*, Paris, 1931, tome XVIII, fasc. 8 et 9, p. 286.
[*Pythium ultimum, Ascochyta Rabiei, A. pinodella, A. Pisi, Pseudomonas Medicaginis* var. *phaseolicola*].

LOPEZ, A. W. The correct name of a Negros white grub. El verdadero nombre de la larva blanca de Negros. *Sugar News*, Manila, P. I., 1931, Vol. XII, No. 5, p. 299, fig. 1.
[In English and Spanish. Deals with *Stephanopholis philippinensis*, a pest of the sugar cane].

LUBISCHEW, A. A. Contributions to the methods of estimating losses caused by insect pests (Cephus pygmaeus L. and Harmolita noxiale Portsch.). *Bulletin of Plant Protection*, Leningrad, 1931, Vol. I, Nr. 2, pp. 359-505, fig. 1-37. Literature, pp. 471-472.
[In Russian, with title and summary in English].

MARSHALL, RUSH P. A rubber dressing for tree wounds. *Phytopathology*, Lancaster, Pa., 1931, Vol. 21, No. 11, pp. 1089-1091.

MATSUMOTO, TAKASHI, and SOMAZAWA, KÔETSU. On the relationship between the serological reaction and other biological characters of some putrefactive phytopathogenic bacteria. *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa), Japan, 1931, Vol. III, No. 4, pp. 317-336, pl. 5.

MCRAE, W. Effect of mosaic on the tonnage and the juice of sugarcane in Pusa. *The Indian Journal of Agricultural Science*, Calcutta, 1931, Vol. I, Pt. V, pp. 527-533.

MESNIL, L. Récoltes de Muscides nuisibles aux céréales. *Revue de Pathologie Végétale et d'Entomologie Agricole*, Paris, 1931, tome XVIII, fasc. 8 et 9, p. 266-274.
[*Oscinella frit* and its form *pusilla*, *Chlorops taeniopus*, *Meromyza saltatrix*, *Oscinis curvinervis*, *Lasiosina cinctipes*, *Elachiptera cornuta*, *Balioptera combinata*, *Opomyza florum*, *Hydrellia griseola*, *Hylemyia coarctata*, *Adia genitalis*, *Chloropisca glabra*, etc.].

MICHAJLOV-SENKEVITSH, J. M. Airplane dusting in control of the oak leafroller in the Tshuvash Republic in 1928. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 61-77, figs. 1-4.
[In Russian, with title and summary in English. *Tortrix viridana*].

MUNERATI, OTTAVIO. Come possa essersi originata la credenza popolare secondo la quale il frumento «punto dagli insetti» si trasformerebbe in avena fatua. *Atti del Reale Istituto Veneto di Scienze, Lettere ed Arti*, Anno accademico 1930-1931, Venezia, 1931, tomo XC, parte seconda, pp. 135-138, tav. I.

MUNERATI, OTTAVIO. L'obbligatorietà della lotta contro le piante infestanti. Le difficoltà che si opporrebbero all'applicazione di decreti od ordinanze che ne consacrassero il principio. *Atti del Reale Istituto Veneto di Scienze, Lettere ed Arti*, Anno accademico 1930-1931, Venezia, 1931, tomo XC, parte seconda, pp. 245-251.

NEMIRITZKIJ, B. G. Naphtha oils and polysulphids in the control of sucking insects in winter. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, p. 201-214.
[In Russian, with title and summary in English].

NICHOLSON, C. The mistleto and its hosts. *The Gardeners' Chronicle*, London, 1932, Third Series, Vol. XCI, No. 2354, pp. 102-104; No. 2356, pp. 145-146.
[*Viscum album*].

NISIKADO, YOSIKAZU. Beiträge zur physiologischen Spezialisierung einiger Obstbewohnender Fusarien. *Berichte des Ohara Instituts für landwirtschaftlichen Forschungen*, Kuraschiki 1931, Bd. V, Heft 1, S. 107-144, Fig. I-V, Taf. IX-XII. Literaturverzeichnis, S. 144.
[*Fusarium lateritium*, *F. lateritium* var. *fructigenum*, *F. oxysporum*, *F. oxysporum* var. *aurantiacum*].

NISIKADO, YOSIKAZU. Beiträge zur physiologischen Spezialisierung Obstfäule erregender Fusarien. *Zeitschrift für Parasitenkunde*, Berlin 1932, 4. Bd., 2. Heft, S. 301-330, Abb. 1-3. Literaturverzeichnis, S. 330.
[*Fusarium lateritium*, *F. lateritium* var. *fructigenum*, *F. oxysporum*, *F. oxyporum* var. *aurantiacum*].

NISIKADO, YOSIKAZU. Über zwei wirtschaftlich wichtige, parasitäre Gramineenpilze: *Lisea Fujikuroi* Sawada und *Gibberella moniliformis* Wineland. *Zeitschrift für Parasitenkunde*, Berlin 1932, 4. Bd., 2. Heft, S. 285-300, Abb. 1-4. Literaturverzeichnis, S. 300.

NISIKADO, YOSIKAZU. Vergleichende Untersuchungen über die durch *Lisea Fujikuroi* Saw. und *Gibberella moniliformis* (Sh.), Winel. verursachten Gramineenkrankheiten. (Vorläufige Mitteilung). *Berichte des Ohara Instituts für landwirtschaftliche Forschungen*, Kuraschiki 1931, Bd. V, Heft 1, S. 87-106, Kurven 1-2, Taf. V-VIII. Literaturverzeichnis, S. 105-106.

OCFEMIA, G. O. The diseases of sugar cane occurring at the College of Agriculture at Los Baños and in the immediate neighborhood. *Sugar News*, Manila, P. I., 1931, Vol. XII, No. 9, pp. 595-599. Literature cited, p. 599.
[*Bacillus Sacchari*, *Rhizoctonia Solani* (?), *Aeginetia indica*, *Cercospora Kopkei*, Fiji disease (cause not yet known), *Helminthosporium Sacchari*, leaf scald (caused by *Bacterium* sp.), mosaic, *Ceratostomella paradoxa*, *Fusarium*, *moniliforme*, *Colletotrichum falcatum*, *Leptosphaeria Sacchari*, *Puccinia Kuehnii*, *Sclerotium* sp., *Ustilago scitaminea*, *Cephalosporium Sacchari*].

PAVARINO, G. L. Sulla vitalità dei semi delle pesche colpite dal male raggiante. *R. Stazione Chimico-Agraria di Torino. Annuario*, vol. XI (1929-1931), s. n. t., pp. 31-32, 3 figg. a col.
[See this *Bulletin*, 1930, No. 2, p. 30].

PETTINGER, N. A., HENDERSON, R. G., and WINGARD, S. A. Some nutritional disorders in corn grown in sand cultures. *Phytopathology*, Lancaster, Pa., 1932, Vol. 22, No. 1, pp. 33-51, figs. 1-7.

PETROV, A. D. Methods of testing the active substance in the pyrethrum. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 155-157.
[In Russian, with title also in English].

PETROV, A. D. The problem of selection of mineral oils for the purpose of control of agricultural pests. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 189-195.
[In Russian, with title and summary in English].

PETROV, A. D., and IKONEN, E. V. Content of pyrethrine in different species of Pyrethrum. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 159-164, diagr. 1-2.
[In Russian, with title and summary in English].

PETROV, A. D., ISATSHENKO, V. B., and GORITZKIJ, O. V. The « contact » as activator of contact insecticides. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 182-187, figs. 1-3.
[In Russian, with title and summary in English].

PETROV, A. D., STEPANOV, V. F., SAVELJEV, A. O., and IKONEN, E. V. Vacuum fumigation of the Egyptian cotton seeds in U S S R in 1930. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 21-31, figs. 1-6.
[In Russian, with title and summary in English].

PICADO, C. Fusariose des caféiers à Costa-Rica. *Revue de Pathologie Végétale et d'Entomologie Agricole*, Paris, 1931, tome XVIII, fasc. 10, p. 312-318, fig. 1-3.
[*Fusarium* sp. of which the ascigerous form is a *Nectria* sp.].

PRASAD, HARI HAR. A bacterial white soft rot of turnip. *The Indian Journal of Agricultural Science*, Calcutta, 1931, Vol. I, Pt. V, pp. 534-537.
[The bacterium considered is very similar to *Bacillus Aroideae* and *Bac. Melonis*].

PUECHER PASSAVALLI, L. Una nuova malattia dell'olmo. *Firenze Agricola*, Firenze, 1932, anno V, n. 2, pp. 67-71, 3 figg.
[*Graphium Ulmi*].

RABINOWITZ-SERENI, D. Come prevenire il marciume delle frutta degli agrumi. *Citrus*, Messina, 1932, anno XVIII, n. 1, pp. 1-3.
[*Penicillium digitatum*, *P. italicum*].

RAMÓN Y ACOSTA, DOMINGO. Investigaciones fitopatológicas. *Ministerio de Industrias. Dirección de Agronomía. Publicación Mensual*. Montevideo, 1931, año IV, n.os 1 y 2, págs. 3 a 18, figs. 1 a 21.
[List of the diseases of the principal crop plants observed during 1929-1930].

RANT, A. Über eine Bakterienkrankheit bei dem Melonenbaume (Carica Papaya Linn.) auf Java. *Zentralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten*, Zweite Abteilung, Jena 1931, 84. Bd., Nr. 23/26, S. 481-487, Abb. 1-4.
[Two forms of bacteria were isolated and are described in German under the single name of *Bacillus Papayae*].

ROXAS, MANUEL L. Aeginetia indica on sugar cane. Aeginetia indica en la caña dulce. *Sugar News*, Manila, P. I., 1931, Vol. XII, No. 2, pp. 89-91.
[In English and Spanish. *A. indica* is a Phanerogam parasitic on the sugar cane].

ROUSSOPOULOS, N., et MÉIMARIS, G. Effets de la gelée de printemps 1931 sur une vigne expérimentale à l'Institut de Pyrgos. *Revue de Viticulture*, Paris, 1931, 38e année, tome LXXV, nº 1953, p. 357-363.
[In the Hellenic Republic].

SAVELJEV, A. I. On naphtha emulsions of the type of gels. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 197-199.
[In Russian, with title also in English].

SCURTI, F., e PAVARINO, G. L. Sui fenomeni di stoppositá che accompagnano il male raggiante nelle pesche refrigerate. *R. Stazione Chimico-Agraria di Torino. Annuario*, vol. XI (1929-1931), s. n. t., pp. 11-29, 23 figg. a col.
[See this *Bulletin* 1930, No. 2, p. 30].

SCURTI, F., e PAVARINO, G. L. Sulle macchie brune che compaiono nella polpa delle frutta refrigerate. *R. Stazione Chimico-Agraria di Torino. Annuario*, vol. XI (1929-1931), s. n. t., pp. 629-646, figg. 1-15.
[Brown spots are formed in the pulp of the apples as a result of abnormal lignification].

SCURTI, FRANCESCO, e PAVARINO, GIOVANNI LUIGI. Sopra una nuova alterazione funzionale di alcune varietà di pere in frigorifero. Il disfacimento precoce. *R. Stazione Chimico-Agraria di Torino. Annuario*, vol. XI (1929-1931), s. n. t., pp. 290-305, tav. a col. I-XXVII.
[The 'disfacimento precoce' (premature rot) affects principally the varieties of pears with much spongy tissue].

SCURTI, FRANCESCO, e PAVARINO, GIOVANNI LUIGI. Sulle caratteristiche del riscaldo in alcune varietà di pere refrigerate. *R. Stazione Chimico-Agraria di Torino. Annuario*, vol. XI (1929-1931), s. n. t., pp. 279-289, tav. a col. I-XII.
['Scald' is an affection of apples and pears in cold storage].

SERING, MAX. Die deutsche Landwirtschaft unter volks- und weltwirtschaftlichen Gesichtspunkten. *Berichte über Landwirtschaft*, Berlin 1932, Neue Folge, 50. Sonderheft, S. LII, 954, mit 50 Bildern im Text, 9 farbigen Karten und einer farbigen Zolltafel.
[Chapter VII, § 8a contains: — Pflanzenschutz. Von Prof. Dr. O. Appel (S. 729-744)].

SIGRIANSKIJ, N. D. The effect of copper salts on smuts. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 3-20.
[In Russian, with title and summary in English, *Tilletia Tritici*, *Ustilago levis*, *U. Panici-miliacei*].

SMITH, CLAYTON O. Pseudomonas prunicola and Bacterium citriputeale. *Phytopathology*, Lancaster, Pa., 1931, Vol. 21, No. 11, p. 1091.
[According to the A., *Ps. prunicola* is very similar to if not identical with *Bact. citriputeale*, *Bact. Syringae* and *Bact. Cerasi*, isolated from material coming from California].

SOKOVNIN, N. I. Effects of fungicides on the gaseous metabolism in green leaves. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 103-113.
[In Russian, with title and summary in English].

SPRENGEL, L., und SONNTAG, K. Der Flug der Kirschfliege (*Rhagoletis cerasi* L.) in seiner Bedeutung zu Fruchtreife und Witterung, mit grundsätzlichen Erörterungen über die Erfassung der Wetterfaktoren. *Anzeiger für Schädlingskunde*, Berlin 1932, VIII. Jahrg., Heft 1, S. 1-10, Abb. 1-8.

STAPP, C. Derzeitiger Stand der Erforschung des «Ulmensterbens». *Mitteilungen der Deutschen Dendrologischen Gesellschaft*, Thyrow (Kr. Teltow) 1931, Nr. 43, S. 334-342.
[*Graphium Ulmi*].

STRATSHITZKIJ, K. On different sensitiveness of plant leaves towards the insecto-fungicides. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 51-59, fig. 1.
[In Russian, with title and summary in English].

STRATSHITZKIJ, K. I. Does the admixture of iron strengthen the burns caused by the copper sulphate ? *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 95-102, fig. 1.
[In Russian, with title and summary in English].

STRONG, FORREST C., and STRONG, MIRIAM C. Investigations on the black root of strawberries. *Phytopathology*, Lancaster, Pa., 1931, Vol. 21, No. 11. pp. 1041-1060, figs. 1-6. Literature cited, pp. 1059-1060.
[*Coniothyrium Fuckelii* and *Hainesia Lythri*].

TAKAHASHI, RYOICHI. Records and descriptions of the Coccidae from Formosa. Part I. *Journal of the Society of Tropical Agriculture*, Taiwan (Fomosa), Japan, 1931, Vol. III, No. 4, pp. 377-385, figs. 1-6.
[The following are described in English as new to science : *Lepidosaphes ficicola* on *Ficus nervosa* ; *L. bladhiae* on *Bladhia Sieboldii* ; *Adiscofiorinia ficicola* on *F. foveolata* ; *Neoparlatoria formosana* n. gen. et n. sp. on *Quercus glauca* ; *Aspidiotus euryae* on *Eurya* sp. ; *A. machili* on *Machilus* sp].

TAREEV, A. I., and NENJUKOV, D. V. Effect of poisons on normal digestion and the blood of Calliptamus. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 39-49.
[In Russian, with title and summary in English. *C. italicus*].

TROUVELOT, B., et THÉNARD, J. Remarques sur les éléments des végétaux contribuant à limiter ou à empêcher la pullulation du *Leptinotarsa decemlineata* Say sur des nombreuses espèces ou races végétales. *Revue de Pathologie Végétale et d'Entomologie Agricole*, Paris, 1931, tome XVIII, fasc. 8 et 9, p. 277-285, pl. XI-XII.

TRUJILLO PELUFFO, A. La mosca del Mediterráneo como enemigo de nuestra fruticultura. *Ministerio de Industrias. Dirección de Agronomía. Publicación Mensual*, Montevideo, 1931, año III, n.os 11 y 12, págs. 215 y 216, 2 figs.
[*Ceratitis capitata*].

TUCKER, C. M. Taxonomy of the genus Phytophthora de Bary. *University of Missouri. College of Agriculture. Agricultural Experiment Station. Research Bulletin 153*, Columbia, Missouri, 1931, 208 pp., 30 figs. Literature cited, pp. 197-208.
[The following are retained as true species : *Phytophthora infestans*, *P. Cactorum*, *P. Phaseoli*, *P. Colocasiae*, *P. citrophthora*, *P. Thalictri*, *P. palmivora*, *P. Syringae*, *P. parasitica*, *P. erythroseptica*, *P. cambivora*, *P. cryptogea*, *P. Capsici*, *P. Cinnamomi*, *P. Richardiae* and *P. Boehmeriae*. Descriptions are given in English of a new variety (*P. parasitica* var. *Nicotianae*) and a new species (*P. Drechsleri*].

UGRJUMOV, G., and VYSHELESSKIJ, N. S. Insecticide action of nicotine preparations. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 115-145.
[In Russian, with title and summary in English].

UICHANCO, LEOPOLDO B. Notes on the life history and habits of the common white grub of sugar cane, Leucopholis irrorata Chevrolat. *Sugar News*, Manila, P. I., 1931, Vol. XII, No. 9, pp. 592-594.

VALLEAN, W. D., and JOHNSON, E. M. The viruses concerned in a natural epiphytotic of streak in tomatoes. *Phytopathology*, Lancaster, Pa., 1931, Vol. 21, No. 11, pp. 1087-1089.

VON TUBEUF. Epidemische Entnadelung (Kurztriebverlust) der Kiefernsprosse durch Cecidomyiose (Brachyneterie). *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1932, 42. Bd., Heft 2, S. 58-88, Abb. 1-12; Heft 3, S. 97-121, Abb. 1-7 + 1-3.

VYSHELESSKIJ, N. S. Soap as insecticide. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 175-182.
[In Russian, with title and summary in English].

VYSHELESSKIJ, N. S., and ZARCHIN, M. M. Soaps of naphthenic acids and naphtha emulsions in the control of coccids on the citrus plants and tea bush. *Bulletin of Plant Protection*, Leningrad, 1931, Vol. III, Nr. 1, pp. 215-231.
[In Russian, with title and summary in English].

WALKER, M. N., and WEBER, GEORGE F. Diseases of watermelons in Florida. *University of Florida. Agricultural Experiment Station. Bulletin 225*, Gainesville, Florida, 1931, 52 pp., 30 figs.
[*Colletotrichum lagenarium, Fusarium niveum, Sclerotium Rolfsii, Mycosphaerella citrullina, Diplodia tubericola, D. Frumenti, D. gossypina, D. natalensis*, 'blossum-end rot' (cause not yet determined), *Peronoplasmopara cubensis, Erysiphe Cichoraceanum, Cercospora citrullina, Macrosporium cucumerinum, Corticium vagum*, 'speckle' (cause unknown). Not yet reported in Florida: *Bacillus tracheiphilus, Bacterium Cucurbitae, Thielavia basicola, Sclerotinia sclerotiorum*, 'mosaic', *Phytophthora citrophthora, Corticium centrifugum, Pestalozzia torulosa*, 'curly top' of sugar beet].

WESTON, W. A. R. DILLON. IV. Studies on the reaction of disease organisms to light. The reaction of disease organisms to certain wave-lengths in the visible and invisible spectrum. II. Reaction of urediniospores to visible light: Wave-lengths between 400 and 780 μμ. *Phytopathologische Zeitschrift*, Berlin 1932, Bd. IV, Heft 3, S. 229-246.
[*Puccinia graminis Tritici*].

WHITE, RICHARD P. Chloroses of the rose. *Phytopathology*, Lancaster, Pa., 1932, Vol. 22, No. 1, pp. 53-69, figs. 1-5.

WILCOXON, FRANK, and MCCALLAN, S. E. A. The fungicidal action of sulphur. III. Physical factors affecting the efficiency of dusts. *Contributions from Boyce Thompson Institute*, Menasha, Wisconsin, 1931, Vol. 3, No. 4, pp. 509-528, figs. 1-6. Literature cited, pp. 527-528.

WILLE, JOHANNES. *Lasioderma serricorne* F. als Schädling an Baumwollsamen. *Anzeiger für Schädlingskunde*, Berlin 1931, VII. Jahrg., Heft 10, S. 110-112.
[In Peru].

ZACCAGNINI, A. Di un insetto dannoso al frumento. *L'Agricoltura Sarda*, Cagliari, 1932, anno XI, n. 4, pp. 97-98.
[*Mayetiola destructor*].

ZWÖLFER, W. Ein verbesserter Williamscher Brücken-Thermostat. *Anzeiger für Schädlingskunde*, Berlin 1932, VIII. Jahrg., Heft 2, S. 13-16, Abb. 1-3.

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